



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,835	06/30/2003	Cary Safe	736.003US1	3890
21186	7590	11/15/2005	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH			BELLINGER, JASON R	
1600 TCF TOWER				
121 SOUTH EIGHT STREET			ART UNIT	PAPER NUMBER
MINNEAPOLIS, MN 55402			3617	

DATE MAILED: 11/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/612,835	SAFE ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Jason R. Bellinger	3617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 19 October 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-8 and 10-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 1-8, 16 and 25 is/are allowed.
- 6) Claim(s) 10-15, 17-19 and 21-24 is/are rejected.
- 7) Claim(s) 20 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____.   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 10-15, 17-19, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagorcka. In Figures 5-6 and 11, Nagorcka shows a vehicle having a track with inner and outer surfaces; the inner surface includes a plurality of driving lugs 11 attached thereto, while the outer surface engages the ground. A driver sprocket 5, having a central axis about which the sprocket 5 rotates, includes a driving portion 7 that includes a center.

The sidewalls of the drive lugs 11 make an angle 13 with respect to the inner surface of the track such that when the driving lug 11 engages the driver sprocket 5, the sidewall of the lug 11 presents a surface that is non-parallel to a radial line or plane acting from the central axis of the sprocket 5 through the center of the driving portion 7 of the drive sprocket 5.

Nagorcka does not specify the angle 13 formed by the first sidewall of the driving lugs 11 with respect to the pitch line of the track is in the range of  $[90 - (360/2n)] +/- 5$ , 3, 2, 1, or 0 degrees {n being the number of driving lugs on the track}. As shown in Figure 5, the angle 13 formed by the sidewall of the driven lug 11 with respect to the pitch line of the track is clearly less than 90 degrees.

Therefore, given that the angle 13 of Nagorcka is clearly shown as being less than 90 degrees, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the angle of the first sidewall of the driving lugs 11 at any angle less than 90 degrees that would be suitable to cause a positive interaction between the driving lug 11 and drive portion 7 of the sprocket 5, for the purpose of preventing slippage between the track and sprocket 5, thus reducing wear of both the track and the sprocket 5. (See column 9, line 49 through column 10, line 4 for Nagorcka's discussion of the advantages of the taught configuration of the drive belt).

Nagorcka shows the second sidewall of the driving lug 11 having an angle 13 substantially equal to the first angle 13 of the first sidewall. The angle 13 of the first sidewall forms a line that is non-parallel to a line from the axis of the sprocket 5 through the driving portion 7. This non-parallel line intersects the radial line extending from the central axis of the sprocket 5 through the driving portion 7 of the sprocket 5 at a point below the pitch line of the track. The non-parallel line also presents a surface to the driving portion 7 of the sprocket that declines toward the surface of the track. The driving portions 7 are substantially equally radially spaced about the sprocket 5.

3. Claims 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagorcka as applied to claims 10-15, 17-19, and 24 above, and further in view of Witt. Nagorcka does not show the driving portions of the sprocket being rotatable sleeves.

Witt teaches the use of a sprocket 12 having driving portions formed of rotatable sleeves 126. Therefore from this teaching, it would have been obvious to one of

ordinary skill in the art at the time of the invention to provide the sprocket of Nagorcka with rotatable sleeve driving portions as a substitution of equivalent sprocket wheels, in order to reduce the wear of both the driving portions of the sprocket and the driven lugs of the track.

#### ***Allowable Subject Matter***

4. Claims 1-8, 16, and 25 are allowable over the prior art.
  
5. Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

6. Applicant's arguments filed 19 October 2005 have been fully considered but they are not persuasive. The Applicant argues that there is no motivation in Nagorcka to form an angle defined by the first sidewall of the driving lugs 11 with respect to the pitch line of the track within the range of  $[90 - (360/2n)] \pm 5, 3, 2, 1, \text{ or } 0$  degrees {n being the number of driving lugs on the track}.

However, Figure 5 clearly shows this angle (13) being less than 90 degrees. The extent to which that angle is less than 90 degrees would be dependent upon the number of driving lugs 11 on the track. Therefore, one or ordinary skill in the art would

Art Unit: 3617

find that it would be obvious that the belt of Nagorcka would have an angle of less than 90 degrees, and that angle would be defined by the number of drive lugs on the belt.

Furthermore, it is well known in the art that the angle at which the sidewall of a drive lug engages the teeth/rollers of a sprocket determines how well the sprocket and endless belt interact. Namely, if the angle of the drive lug sidewall is too shallow, then the sprocket would have the tendency to slide over the drive lug; while if the angle is too steep, then the sprocket would have difficulty disengaging from the drive lugs, thus causing a jerking movement. Therefore, one of ordinary skill in the art would be motivated to form the sidewall of the drive lugs of a track at an angle that positively engages the drive portions of a sprocket without causing sticking or slipping, which would reduce the wear on both the track and the sprocket.

The Applicant further states, "Since all the elements of the claim are not found in the Nagorcka reference, Applicant assumes that the Examiner is taking official notice of the missing elements." First, the assumption that the Examiner has taken official notice is incorrect. The Examiner has not invoked official notice in the application. The Nagorcka reference meets the limitations of the claims for the reasons set forth above. Second, the Applicant has not properly traversed the assumed taking of official notice by providing specific examples, reasons, etc. why the assumed taking of official notice is in error.

The Applicant further argues that the Witt reference does not teach the recitation of the angle of the sidewall of the driving lugs. The Witt reference was only used to

Art Unit: 3617

teach a rotatable socket on a sprocket, and therefore does not need to disclose all of the limitations of the claims.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason R. Bellinger whose telephone number is 571-272-6680. The examiner can normally be reached on Mon - Thurs (9:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Morano can be reached on 571-272-6684. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason R Bellinger  
Examiner  
Art Unit 3617

JASON R. BELLINGER  
PATENT EXAMINER

jrb *[Signature]*  
11/9/05